Mining engineers find, develop, and recover the resources needed to support the daily needs of society from the minerals required to support our daily health to the materials used for roads, buildings, computers, cell phones among most other items used daily. The mining engineering discipline requires a broad range of basic engineering skills along with the ability to apply specialized technical knowledge in the areas of geotechnical engineering, explosives engineering, ventilation, mine power systems, automation and control, environmental engineering and extractive metallurgy.

### Freshman Year

**FALL SEMESTER**
- EGR 101 - ENGINEERING EXPLORATION I - 1
- EGR 102 - FUNDAMENTALS OF ENGINEERING COMPUTING - 2
- Choose CHE 105 or PHY 231 - 4
- UK Core - Comp. & Comm. I - 3
- MA 113 - CALCULUS I - 4

**SPRING SEMESTER**
- EGR 103 - ENGINEERING EXPLORATION II - 2
- UK Core - Comp. & Comm. II - 3
- MA 114 - CALCULUS II - 4
- Choose CHE 105 or PHY 231 - 4
- PHY 241 --OR-- CHE 111 - 3
- UK Core - Social Sciences - 3

**TOTAL HOURS: 14**

Total Freshman Hours: 31

### Sophomore Year

**FALL SEMESTER**
- EM 221 - STATICS - 3
- EES 220 - PRINCIPLES OF PHYSICAL GEOLOGY - 4
- MA 213 - CALCULUS III - 4
- MNG 201 - MINING ENGINEERING FUNDAMENTALS - 3
- PHY 232 - GENERAL UNIVERSITY PHYSICS - 4

**SPRING SEMESTER**
- EES 230 - FUNDAMENTALS OF GEOLOGY I - 3
- EM 302 - MECHANICS OF DEFORMABLE SOLIDS - 3
- MA 214 - CALCULUS IV - 3
- ME 220 - ENGINEERING THERMODYNAMICS I - 3
- MNG 291 - ELEMENTS OF MINE DESIGN - 3
- MNG 303 - DEFORMABLE SOLIDS LABORATORY - 1
- MNG 331 - EXPLOSIVES AND BLASTING - 2

**TOTAL HOURS: 18**

Total Sophomore Hours: 36

### Junior Year

**FALL SEMESTER**
- ME 330 - FLUID MECHANICS - 3
- MNG 211 - MINE SURVEYING - 2
- MNG 301 - MINERALS PROCESSING - 3
- MNG 302 - MINERALS PROCESSING LABORATORY - 1
- MNG 335 - INTRODUCTION TO MINE SYSTEMS ANALYSIS - 3
- MNG 351 - UNDERGROUND MINE DESIGN - 3
- UK Core - Humanities - 3

**SPRING SEMESTER**
- MNG 311 - ELECTRICAL CIRCUITS AND MINING MACHINERY - 3
- MNG 322 - MINE SAFETY AND HEALTH MANAGEMENT AND PROCESSES - 2
- MNG 371 - PROFESSIONAL DEVELOPMENT OF MINING ENGINEERS - 3
- MNG 435 - MINE SYSTEMS ENGINEERING & ECONOMICS - 4
- MNG 463 - SURFACE MINE DESIGN - 3

**TOTAL HOURS: 18**
### Senior Year

#### FALL SEMESTER
- **EM 313 - DYNAMICS** - 3
- **MNG 332 - MINE PLANT MACHINERY** - 3
- **MNG 341 - MINE VENTILATION** - 3
- **MNG 551 - ROCK MECHANICS** - 4
- **MNG 564 - ENVIRONMENTAL CONTROL SYSTEM DESIGN AND RECLAMATION** - 3
- **MNG 591 - MINE DESIGN PROJECT I** - 1

**TOTAL HOURS: 17**

#### SPRING SEMESTER
- **MNG 592 - MINE DESIGN PROJECT II** - 3
- **Technical Elective** - 3
- **Supportive Elective** - 3
- **UK Core - Community, Culture and Citizen** - 3
- **UK Core - Global Dynamics** - 3

**TOTAL HOURS: 15**

**Total Senior Hours: 32**

**Total Minimum hours Required for Degree: 135 hours**

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